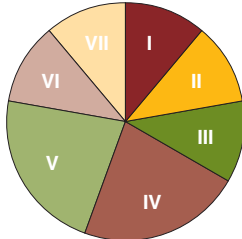


Principles of Learning and Teaching: Grades 5–9 (0523)

Test at a Glance

Test Names and Test Codes	Principles of Learning and Teaching: Early Childhood (0521) Principles of Learning and Teaching: Grades K–6 (0522) Principles of Learning and Teaching: Grades 5–9 (0523) Principles of Learning and Teaching: Grades 7–12 (0524)	
Time	2 hours	
Number of Questions	12 short-answer questions and 24 multiple-choice questions	
Format	4 case histories will be presented, each followed by 3 short-answer questions; 24 multiple-choice questions are included in two sections of 12 questions each	
	Categories that will appear on your score report	Approximate Percentage of Total Score
	I. Students as Learners (multiple-choice questions) II. Instruction and Assessment (multiple-choice questions) III. Teacher Professionalism (multiple-choice questions) IV. Students as Learners (short-answer questions) V. Instruction and Assessment (short-answer questions) VI. Communication Techniques (short-answer questions) VII. Teacher Professionalism (short-answer questions)	11% 11% 11% 22% 22% 11% 11%
Pacing Considerations	You will need to monitor your time carefully. Plan on approximately 25 minutes per case history. This amount of time has been ample for most examinees to read the case study and respond to the short-answer questions. Allow approximately 10 minutes to answer each of the two sections of multiple-choice questions. The multiple-choice questions are not associated with the case histories. Do not spend too much time on any one section of the test or on any one question.	

About This Test

The Principles of Learning and Teaching test is designed to assess a beginning teacher's knowledge of a variety of job-related criteria. Such knowledge is typically obtained in undergraduate preparation in areas such as educational psychology, human growth and development, classroom management, instructional design and delivery techniques, evaluation and assessment, and other professional preparation.

The test includes four case histories, each presenting a particular teaching situation. For each case history, the examinee will respond to three short-answer questions related to the teaching situation described in the case history. The twelve short-answer questions will cover all of the content areas listed under Topics Covered. Each short-answer question will be scored on a scale of 0–2. Questions may require the examinee to do any of the following: demonstrate understanding of the importance of an aspect of teaching, demonstrate understanding of the principles of learning and teaching underlying an aspect of teaching, or recognize when and how to apply the principles of learning and teaching underlying an aspect of teaching. Each case history with short-answer questions will require approximately 25 minutes.

In addition, the test contains two sections of twelve multiple-choice questions covering an array of topics listed under Topics Covered. Each multiple-choice question section will require approximately 10 minutes.

This test may contain some questions that will not count toward your score.

Topics Covered

I. Students as Learners

A. Student Development and the Learning Process

1. Theoretical foundations about how learning occurs: how students construct knowledge, acquire skills, and develop habits of mind
 - Examples of important theorists
 - Important terms that relate to learning theory
2. Human development in the physical, social, emotional, moral, speech/language, and cognitive domains
 - Contributions of important theorists
 - Major progressions in each developmental domain and the ranges of individual variation within each domain
 - Impact of students' physical, social, emotional, moral, and cognitive development on their learning and how to address these factors when making instructional decisions
 - How development in one domain, such as physical, may affect performance in another domain, such as social

B. Students as Diverse Learners

1. Differences in the ways students learn and perform
 - Learning styles
 - Multiple intelligences
 - Performance modes
 - Concrete operational thinkers
 - Visual and aural learners
 - Gender differences
 - Cultural expectations and styles
2. Areas of exceptionality in students' learning
 - Visual and perceptual difficulties
 - Special physical or sensory challenges
 - Learning disabilities
 - Attention-deficit disorder (ADD); attention-deficit/hyperactivity disorder (ADHD)
 - Functional mental retardation
 - Behavioral disorders
 - Developmental delays
3. Legislation and institutional responsibilities relating to exceptional students
 - Americans with Disabilities Act (ADA)
 - Individuals with Disabilities Education Act (IDEA)
 - Inclusion, mainstreaming, and "least restrictive environment"
 - IEP (Individualized Education Plan), including what, by law, must be included in each IEP
 - Section 504 of the Rehabilitation Services Act
 - Due process
 - Family involvement
4. Approaches for accommodating various learning styles, intelligences, or exceptionalities
 - Differentiated instruction
 - Alternative assessments
 - Testing modifications
5. Process of second-language acquisition and strategies to support the learning of students for whom English is not a first language
6. Understanding the influence of individual experiences, talents, and prior learning, as well as language, culture, family, and community values on students' learning
 - Multicultural backgrounds
 - Age-appropriate knowledge and behavior
 - The student culture at school
 - Family backgrounds
 - Linguistic patterns and differences
 - Cognitive patterns and differences
 - Social and emotional issues

C. Student Motivation and the Learning Environment

1. Theoretical foundations of human motivation and behavior
 - Important terms that relate to motivation and behavior
2. How knowledge of human motivation and behavior should influence strategies for organizing and supporting individual and group work in the classroom
3. Factors and situations that are likely to promote or diminish student's motivation to learn, and how to help students to become self-motivated
4. Principles of effective classroom management and strategies to promote positive relationships, cooperation, and purposeful learning
 - Establishing daily procedures and routines
 - Establishing classroom rules
 - Using natural and logical consequences
 - Providing positive guidance
 - Modeling conflict resolution, problem solving, and anger management
 - Giving timely feedback
 - Maintaining accurate records
 - Communicating with parents and caregivers
 - Using objective behavior descriptions
 - Responding to student behavior
 - Arranging classroom space
 - Pacing and structuring the lesson

II. Instruction and Assessment

A. Instructional Strategies

1. Major cognitive processes associated with student learning
 - Critical thinking
 - Creative thinking
 - Higher-order thinking
 - Inductive and deductive thinking
 - Problem structuring and problem solving
 - Invention
 - Memorization and recall
 - Social reasoning
 - Representation of ideas
2. Major categories, advantages, and appropriate uses of instructional strategies
 - Cooperative learning
 - Direct instruction
 - Discovery learning
 - Whole-group discussion

- Independent study
- Interdisciplinary instruction
- Concept mapping
- Inquiry method
- Questioning
- Play
- Learning centers
- Small-group work
- Revisiting
- Reflection
- Project approach

3. Principles, techniques, and methods associated with major instructional strategies
 - Direct instruction
 - Student-centered models
4. Methods for enhancing student learning through the use of a variety of resources and materials
 - Computers, Internet resources, Web pages, e-mail
 - Audiovisual technologies such as videotapes and compact discs (CDs)
 - Local experts
 - Primary documents and artifacts
 - Field trips
 - Libraries
 - Service learning

B. Planning Instruction

1. Techniques for planning instruction, including addressing curriculum goals, selecting content topics, incorporating learning theory, subject matter, curriculum development, and student development and interests
 - National and state learning standards
 - State and local curriculum frameworks
 - State and local curriculum guides
 - Scope and sequence in specific disciplines
 - Units and lessons
 - Rationale for selecting content topics
 - Behavioral objectives: affective, cognitive, psychomotor, speech/language
 - Learner objectives and outcomes
 - Emergent curriculum
 - Antibias curriculum
 - Themes/projects
 - Curriculum webbing
2. Techniques for creating effective bridges between curriculum goals and students' experiences
 - Modeling
 - Guided practice

- Independent practice, including homework
- Transitions
- Activating students' prior knowledge
- Anticipating preconceptions
- Encouraging exploration and problem solving
- Building new skills on those previously acquired
- Predicting

C. Assessment Strategies

1. Types of assessments
2. Characteristics of assessments
3. Scoring assessments
4. Uses of assessments
5. Understanding of measurement theory and assessment-related issues
6. Interpreting and communicating results of assessments

III. Communication Techniques

A. Basic, effective verbal and nonverbal communication techniques

B. Effect of cultural and gender differences on communications in the classroom

C. Types of communications and interactions that can stimulate discussion in different ways for particular purposes

- Probing for learner understanding
- Helping students articulate their ideas and thinking processes
- Promoting risk taking and problem solving
- Facilitating factual recall
- Encouraging convergent and divergent thinking
- Stimulating curiosity
- Helping students to question
- Promoting a caring community

2. Ability to read, understand, and apply articles and books about current research, views, ideas, and debates regarding best teaching practices
3. Ongoing personal reflection on teaching and learning practices as a basis for making professional decisions
 - Code of Ethics
 - Advocacy for learners

B. The Larger Community

1. Role of the school as a resource to the larger community
 - Teachers as a resource
2. Factors in the students' environment outside of school (family circumstances, community environments, health and economic conditions) that may influence students' life and learning
3. Develop and utilize active partnerships among teachers, parents/guardians, and leaders in the community to support the educational process
 - Shared ownership
 - Shared decision making
 - Respectful/reciprocal communication
4. Major laws related to students' rights and teacher responsibilities
 - Equal education
 - Appropriate education for students with special needs
 - Confidentiality and privacy
 - Appropriate treatment of students
 - Reporting in situations related to possible child abuse

IV. Profession and Community

A. The Reflective Practitioner

1. Types of resources available for professional development and learning
 - Professional literature
 - Colleagues
 - Professional associations
 - Professional-development activities

Sample Test Questions

The sample questions that follow illustrate the kinds of questions in the test. They are not, however, representative of the entire scope of the test in either content or difficulty. Answers with explanations follow the questions.

Case History: 5–9

Directions: The case history is followed by two short-answer questions.

Mr. Jenner

Mr. Jenner is a second-year teacher in a middle school with high test scores and high academic standards. In his English/History core class there are 25 heterogeneously mixed 12- and 13-year-olds. He is beginning the fourth week of instruction.

Document 1

Project Plan
World Cultures Panel Presentations

Objectives: Students will

1. Review and use concepts about world cultures
2. Demonstrate speaking and listening skills
3. Use creativity (art, literature, music, multimedia, objects)
4. Use higher-order thinking skills

Assignment:

1. You will work in assigned groups of five
2. Each group will select one culture from a list
3. The group will plan, gather information, and present a panel report to the class on the culture
4. Use the characteristics of a culture studied last week to organize your presentation
5. Include some use of art, literature, music, multimedia, or other cultural objects
6. All students must participate in group planning and presentation

Activities:

- | | |
|--|--------------------------|
| 1. Presentation/discussion of assignment; video of effective panel from another class; assign groups | <u>Periods</u>
1
1 |
| 2. Group work: select culture; plan presentation, assign responsibilities | 3
5 |
| 3. Group work: prepare presentations | 1 |
| 4. Panel presentations | |
| 5. Writing assignment: comparison/contrast of cultures | |

Assessment:

1. Group work: individual and group grade
2. Panel presentation: individual and group grade
3. Writing assignment

At Mr. Jenner's request, Mr. Rose, a core program supervisor, is observing and tape-recording the class in order to make suggestions for improvement.

Document 2

Supervisor's Notes and Transcript of Tape
Mr. Jenner's class after lunch
September 24

When the bell rings, about half the students are seated at their desks. Four students are standing at the door. Three others are tossing around an object in the back. Several others are walking around visiting. There is loud conversation.

Mr. Jenner Class, attention please!
There is little or no response.

Mr. Jenner [louder] Attention!! Please get seated immediately! Get away from the door, Theo, Tom, Christi, and Julia. Sit down Jack, Huberto, and Kang.

Some scuffling near the classroom door; Christi and Julia slowly move toward their seats, laughing. Theo and Tom still at door. Three boys continue tossing the object.

Mr. Jenner Please move into the cooperative groups I assigned yesterday for the panel reports.

Noise level rises again; students move desks noisily. Several students speak loudly at the same time.

Tom Which group am I in?

Christi Javier just took my backpack, Mr. Jenner. *(She laughs)* Come on, Javier—give it back. Mr. Jenner! Make him!

Elaine Can we change groups, Mr. Jenner?

Kim Something just hit me right in the head. I think I have a concussion. *(Several students laugh)*

Kia I've lost my assignment sheet. What are we supposed to do?

Leroy Hey! Who's the guy with the tape recorder?

Mr. Jenner O.K., that's enough! You know what you're supposed to do. Begin your planning. Please start now!

Noise level dies down; some students begin work. Boys in the back continue throwing the object.

Mr. Jenner Jack, Huberto, Kang: into your groups now.

Boys throw the object again. Several other students snicker.

Mr. Jenner OK, that's it. All three of you—to the office right now. I'm calling them to let them know you're coming.

Gradually the noise subsides; few groups function well. Confusion about assignments and responsibilities continues for the rest of the period.

Document 3

Conversation with a Colleague
September 24

After school, Ms. Young, a colleague, pokes her head into Mr. Jenner's classroom.

Ms. Young Hi, how'd it go when Mr. Rose came in today?

Mr. Jenner To tell you the truth, things weren't so good.

Ms. Young What happened?

Mr. Jenner My class was totally out of control—and I'd really worked on the planning because Mr. Rose was coming in. But I don't think it's anything anyone can help me with...

Ms. Young What do you mean?

Mr. Jenner Well, to be honest, I think I just got the worst of the lot. The principal told me they're "a typical range of kids this age," but I gotta tell you, I don't think these kids are typical.

Ms. Young Don't be so sure. They may be more typical than you think.

Document 4

Mr. Jenner's Class Assignment
September 26

I want to get your ideas about a class problem. The behavior of most students is not what is expected here. Please tell me:

- What you think are the causes of the problem
- How the problem has affected you
- What solutions you think might work

Document 5

Two student responses

Tony's response

I think the problem is that when you give directions, some kids don't hear because others are talking. When they don't get in trouble, everyone thinks it's O.K. to continue fooling around. Why can't you give directions so everyone has to listen and some of us who want to can start?

Leroy's response

Hey, Mr. J—lighten up! It's no big deal. We're just kickin' back before we work. We're learning stuff—go with the flow! Ask the guy with the tape recorder—he'll tell you we're good kids. Just give us a break.

Short Answer Questions

This section presents two short-answer questions and sample responses along with the standards used in scoring these responses. When you read these sample responses, keep in mind that they are less polished than if they had been developed at home, edited, and carefully presented. Examinees do not know what questions will be asked and must decide on the spot how to respond. Readers assign scores based on the following scoring guide.

GENERAL SCORING GUIDE

A response that receives a score of 2:

- Demonstrates a thorough understanding of the aspects of the case that are relevant to the question
- Responds appropriately to all parts of the question
- If an explanation is required, provides a strong explanation that is well supported by relevant evidence
- Demonstrates a strong knowledge of pedagogical concepts, theories, facts, procedures, or methodologies relevant to the question

A response that receives a score of 1:

- Demonstrates a basic understanding of the aspects of the case that are relevant to the question
- Responds appropriately to one portion of the question
- If an explanation is required, provides a weak explanation that is supported by relevant evidence
- Demonstrates some knowledge of pedagogical concepts, theories, facts, procedures, or methodologies relevant to the question

A response that receives a score of 0:

- Demonstrates misunderstanding of the aspects of the case that are relevant to the question
- Fails to respond appropriately to the question
- Is not supported by relevant evidence
- Demonstrates little knowledge of pedagogical concepts, theories, facts, procedures, or methodologies relevant to the question

No credit is given for a blank or off-topic response.

Directions: Questions 1 and 2 require you to write short answers. You are not expected to cite specific theories or texts in your answers; however, your responses to the questions will be evaluated with respect to professionally accepted principles and practices in teaching and learning. Be sure to answer all parts of the questions. Write your answers in the spaces indicated in the response book.

Question 1

Mr. Jenner's Project Plan (Document 1) demonstrates several aspects of effective planning.

- Identify TWO strengths in Mr. Jenner's Project Plan.
- Explain how each strength demonstrates aspects of effective planning. Base your response on principles of planning instruction.

Sample Response that Received a Score of 2

Mr. Jenner's Project Plan demonstrates several aspects of effective planning. His goals, assignment, activities, and assessment are closely related and support each other. For example, his objective of using creativity (art, literature, music, multimedia, objects) is directly supported by requirement #5 of his assignment. His objective of demonstrating speaking and listening skills, his requirement that all students must participate in group planning and presentation, and his assigning both an individual and group grade for the group work and the presentation support each other.

Sample Response that Received a Score of 1

The Project Plan demonstrates aspects of effective planning. A very important feature of Mr. Jenner's planning is that he is building on prior knowledge. He tells the students that they are to use the characteristics of a culture studied the previous week to organize their presentations. When teachers link what has already been studied to a new task or a new concept, students have a much better opportunity for success. Building on prior knowledge is always to be desired in planning lessons, and Mr. Jenner does this well.

Sample Response that Received a Score of 0

One aspect of effective planning that I have learned is always to make your unit plan or your lesson plan well organized and easy for you to follow and for others to

understand. Many people may see your lesson plan—a mentor teacher, a supervisor, your principal—and the first impression they form of your teaching may come from the lesson plan. Mr. Jenner's Project Plan is very well organized, presented in clear outline form, and is easy to understand and follow.

Question 2

Review the assessment section of Mr. Jenner's Project Plan.

- Suggest TWO ways Mr. Jenner could strengthen this section to help students have a better opportunity to demonstrate their accomplishments in this project.
- Explain how each suggestion could provide students with opportunity to demonstrate their accomplishments. Base your response on principles of formal and informal assessment.

Sample Response that Received a Score of 2

- Add an indication of the criteria on which each assessment will be made—students need to know more than the names or kinds of the assessments—they need to know on what their work will be evaluated.
- Add an assessment at the end, so each student has another opportunity to demonstrate what has been learned, either about all the cultures reported on or about the specific culture the student studied.

Sample Response that Received a Score of 1

He could add another assessment toward the beginning to be sure students begin to understand what an effective panel is. Before showing the video of the panel, he could tell students that as soon as it is over, they are to explain what they saw that they thought was effective. This would assess both their viewing and listening skills and their ability to figure out what effective panels are.

Sample Response that Received a Score of 0

He could add a reading assignment. It looks to me like students are going to just do the group work and share all their ideas. But they would do a much better job if assigned some reading, so that they would have more information to draw on. This would help strengthen the knowledge about cultures that they have.

Multiple-Choice Questions

Directions: Questions 3–10 are not related to the previous case. For each question, select the best answer and mark the corresponding space on your answer sheet.

3. Students in a sixth-grade class are trying to find a way to deal with the problem of wasted food in the school lunchroom. They have invited the district director of food services to speak with the class. The students are at which of the following steps in the problems-solving process?
 - (A) Develop criteria to evaluate possible solutions to the problem.
 - (B) Brainstorm possible solutions to the problem.
 - (C) Gather facts and information about the problem.
 - (D) Develop a plan to implement the best solution to the problem.
4. In order to determine how well the students in an eighth-grade class are reading as compared to other students in the nation, a teacher should examine the results of which of the following kinds of tests?
 - (A) A criterion-referenced reading test
 - (B) A norm-referenced reading test
 - (C) An aptitude test
 - (D) An informal reading inventory
5. Which of the following instructional strategies is most commonly observed in middle-grade classes in which core subjects are integrated into the curriculum?
 - (A) The teacher focuses on individualized instruction, although small groups are used more for reading than for mathematics.
 - (B) The teacher is careful to prepare students for seatwork so they have opportunities to complete tasks successfully.
 - (C) The teacher focuses on whole group-discussions and uses various questioning, explaining, and probing techniques.
 - (D) The teacher stops and reteaches material whenever necessary for students who do not understand the material.
6. Daryl, a sixth grader, receives a score report from a standardized mathematics test taken by his entire sixth-grade class that includes both a grade-equivalent score and a national percentile rank. Daryl's grade-equivalent score is 8.2. His national percentile rank is 87. Daryl's grade-equivalent score indicates that which of the following is true?
 - (A) Daryl did as well on his test as an average eighth-grade student in the second month of school would do on an eighth-grade test.
 - (B) Daryl can do the mathematics expected of an average eighth grader who is in the second month of the school year.
 - (C) Daryl may well encounter difficulties in the later stages of the eighth-grade mathematics curriculum.
 - (D) Daryl did as well on this test as an average eighth grader in the second month of school would do on the same test.
7. In Ms. Prestage's ninth-grade English class, English is the second language for 11 of the 25 students. They represent four different language groups and have a wide range of English fluency. One of Ms. Prestage's goals for this class is that "Students will develop speaking and listening skills, both in formal presentations and informal discussions." To address this goal, she plans to have pairs of students interview and then introduce each other to the rest of the class. Which of the following has the potential for helping the students for whom English is a second language perform well in this activity?
 - (A) Presenting a model of an interview and an introduction in which a student from a previous year interviews Ms. Prestage and then introduces her
 - (B) Providing a set of written guidelines on conducting an interview and introducing another person
 - (C) Having students discuss among themselves what completing the activity successfully will require
 - (D) Providing a rubric by which both the interviews and the introductions will be evaluated

8. Mr. Young’s middle school students are having difficulty with a project that asks them to keep a notebook in which they record careful, systematic scientific observations and then write two possible hypotheses that could be tested on the basis of the observations. Which of the following theories might best help him understand why so many of his students are having difficulty with the project?
- (A) Erik Erikson’s theory on the stages of psychological development
 - (B) Jerome Bruner’s theory on how information is processed
 - (C) Jean Piaget’s theory on the stages of cognitive development
 - (D) Lev Vygotsky’s theory on social learning

Questions 9–10 are based on the following passages.

The following passages are taken from a debate about the advantages and disadvantages of a constructivist approach to teaching.

Why constructivist approaches are effective

The point of constructivist instruction is to have students reflect on their questions about new concepts in order to uncover their misconceptions. If a student cannot reason out the answer, this indicates a conceptual problem that the teacher needs to address. It takes more than content-related professional expertise to be a “guide on the side” in this process. Constructivist teaching focuses not on what the teacher knows, but on what and how the student learns. Expertise is focused on teaching students how to derive answers, not on giving them the answers. This means that a constructivist approach to teaching must respond to multiple different learning methods and use multiple approaches to content. It is a myth that constructivist teaching never requires students to memorize, to drill, to listen to a teacher explain, or to watch a teacher model problem-solving of various kinds. What constructivist approaches take advantage of is a basic truth about human cognition: we all make sense of new information in terms of what we already know or think we know. And each of us must process new information in our own context and experience to make it part of what we really know.

Why constructivist approaches are misguided

The theory of constructivism is appealing for a variety of reasons—especially for its emphasis on direct student engagement in learning. However, as they are implemented, constructivist approaches to teaching often treat memorization, direct instruction, or even open expression of teacher expertise as forbidden. This demotion of the teacher to some sort of friendly facilitator is dangerous, especially in an era in which there is an unprecedented number of teachers teaching out of their fields of expertise. The focus of attention needs to be on how much teachers know about the content being taught.

Students need someone to lead them through the quagmire of propaganda and misinformation that they confront daily. Students need a teacher who loves the subject and has enough knowledge to act as an intellectual authority when a little direction is needed. Students need a teacher who does not settle for minimal effort but encourages original thinking and provides substantive intellectual challenge.

9. The first passage suggests that reflection on which of the following after a lesson is an essential element in constructivist teaching?
- (A) The extent to which the teacher’s knowledge of the content of the lesson was adequate to meet students’ curiosity about the topic
 - (B) The differences between what actually took place and what the teacher planned
 - (C) The variety of misconceptions and barriers to understanding revealed by students’ responses to the lesson
 - (D) The range of cognitive processes activated by the activities included in the lesson design and implementation
10. The author of the second passage would regard which of the following teacher behaviors as essential for supporting student learning?
- (A) Avoiding lecture and memorization
 - (B) Allowing students to figure out complex problems without the teacher’s intervention
 - (C) Emphasizing process rather than content knowledge
 - (D) Directly guiding students’ thinking on particular topics

Answers

1. See sample responses on page 9.
2. See sample responses on page 9.
3. The best answer is C. The invitation to the director of food services is an opportunity for the students to gather facts and information about the problem. There is no indication given that the students have begun to brainstorm solutions, evaluate the possible solutions, or develop an implementation plan.
4. The best answer is B. A norm-referenced reading test compares the performance of each student to the performance of a local or national norm group.
5. The best answer is C. The most common instructional strategy is one in which the teacher is facilitating whole-class discussions, asking questions, listening carefully to answers, explaining, probing, correcting, and asking more questions. Many of the questions focus on short stories or articles that the whole class has read that address more than one content area, such as science and technology, art and history. The other options are more common in elementary-grade classes.
6. The best answer is D. A grade-equivalent score is a score that compares the raw score attained on a test by the individual student to the raw score attained by the average student in the norm group for the particular test and then reports the grade and month level of that norm group comparison. In this case, Daryl's raw score was equivalent to the average raw score of all eighth graders in the second month of school who were part of the norm group.
7. The best answer is A. When working with students whose first language is not English, teachers must keep in mind that reading, writing, listening, and speaking are all parts of language learning. Giving directions that depend on a certain level of facility in one of these areas, and then asking students to make the transfer from those directions to performance in another skill area is very demanding. Modeling the interview allows these students to observe a variety of speaking and listening skills and to note cultural differences—for example, tone of voice and eye contact. The instructional objective is congruent with the method used to deliver the directions.
8. The best answer is C. Jean Piaget's work supported a "stage theory" of cognitive development in which children progress from completely physical and tactile methods of understanding the environment and experience (the sensorimotor stage) to methods of understanding that allow them to understand abstract explanations and generalizations across many different kinds of experiences (the formal operational stage). Piaget's classification of stages of developmental readiness suggests that these students may not yet have reached the readiness level to move from concrete observations (concrete operational) to abstract hypotheses (formal operational).
9. The best answer is C. Constructivist teaching depends on the connection of new information to already learned information or understandings, whether or not they are accurate. The passage says, "The point of constructivist instruction is to have students reflect on their questions about new concepts in order to uncover their misconceptions. If a student cannot reason out the answer, this indicates a conceptual problem that the teacher needs to address." Thus, a consideration of barriers and/or misconceptions in response to the presentation of new material is an essential follow-up to a constructivist lesson.
10. The best answer is D. The second author maintains that students require teacher guidance and a direct expression of the teacher's expert content knowledge in order to learn most effectively. Choices A (avoiding lecturing), B (learning without teacher intervention), and C (de-emphasis on content knowledge) are not consistent with this approach to teaching. Direct guidance of students' thinking is consistent with the second author's approach.



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